

FORM PTO-1390 (Modified) (REV 11-98)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER <b>tk102</b>
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371			U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 1.5) <b>09/830649</b>
INTERNATIONAL APPLICATION NO. <b>PCT/DE 00/02965</b>	INTERNATIONAL FILING DATE <b>August 29, 2000</b>	PRIORITY DATE CLAIMED <b>August 30, 1999</b>	
TITLE OF INVENTION <b>Machine Knife For Trimming Books Or The Like</b>			
APPLICANT(S) FOR DO/EO/US <b>Joachim KOZLOWSKI</b>			
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:			
<ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. 371.</li> <li>3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).</li> <li>4. <input checked="" type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.</li> <li>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c) (2)) <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input checked="" type="checkbox"/> has been transmitted by the International Bureau.</li> <li>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</li> </ol> </li> <li>6. <input checked="" type="checkbox"/> A translation of the International Application into English (35 U.S.C. 371(c)(2)).</li> <li>7. <input checked="" type="checkbox"/> A copy of the International Search Report (PCT/ISA/210).</li> <li>8. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3)) <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).</li> <li>b. <input type="checkbox"/> have been transmitted by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li>d. <input type="checkbox"/> have not been made and will not be made.</li> </ol> </li> <li>9. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</li> <li>10. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).</li> <li>11. <input type="checkbox"/> A copy of the International Preliminary Examination Report (PCT/IPEA/409).</li> <li>12. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).</li> </ol>			
Items 13 to 20 below concern document(s) or information included:			
<ol style="list-style-type: none"> <li>13. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</li> <li>14. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</li> <li>15. <input type="checkbox"/> A <b>FIRST</b> preliminary amendment.</li> <li>16. <input type="checkbox"/> A <b>SECOND</b> or <b>SUBSEQUENT</b> preliminary amendment.</li> <li>17. <input type="checkbox"/> A substitute specification.</li> <li>18. <input type="checkbox"/> A change of power of attorney and/or address letter.</li> <li>19. <input type="checkbox"/> Certificate of Mailing by Express Mail</li> <li>20. <input checked="" type="checkbox"/> Other items or information:</li> </ol>			
Form PTO-1449 and listed documents			
Preliminary Amendment (to be entered prior to calculating fees and examination)			

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 1.5) <b>09/830649</b>		INTERNATIONAL APPLICATION NO. <b>PCT/DE 00/02965</b>		ATTORNEY'S DOCKET NUMBER <b>tk102</b>	
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21. The following fees are submitted: <b>BASIC NATIONAL FEE ( 37 CFR 1.492 (a) (1) - (5)) :</b> <input type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO ..... <b>\$1,000.00</b> <input checked="" type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO ..... <b>\$860.00</b> <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... <b>\$710.00</b> <input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4) ..... <b>\$690.00</b> <input type="checkbox"/> International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4) ..... <b>\$100.00</b> <b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>				<b>CALCULATIONS PTO USE ONLY</b>  <div style="border: 1px solid black; height: 100px; width: 100%;"></div>	
Surcharge of <b>\$130.00</b> for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (e)).				<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div> <b>\$130.00</b>	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	16 - 20 =	0	x \$18.00	<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div> <b>\$0.00</b>	
Independent claims	1 - 3 =	0	x \$80.00	<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div> <b>\$0.00</b>	
Multiple Dependent Claims (check if applicable). <input type="checkbox"/>				<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div> <b>\$0.00</b>	
<b>TOTAL OF ABOVE CALCULATIONS =</b>				<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div> <b>\$990.00</b>	
Reduction of 1/2 for filing by small entity, if applicable. Verified Small Entity Statement must also be filed (Note 37 CFR 1.9, 1.27, 1.28) (check if applicable). <input checked="" type="checkbox"/>				<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div> <b>\$495.00</b>	
<b>SUBTOTAL =</b>				<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div> <b>\$495.00</b>	
Processing fee of <b>\$130.00</b> for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (f)).				<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div> <b>\$0.00</b>	
<b>TOTAL NATIONAL FEE =</b>				<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div> <b>\$495.00</b>	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable). <input type="checkbox"/>				<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div> <b>\$0.00</b>	
<b>TOTAL FEES ENCLOSED =</b>				<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div> <b>\$495.00</b>	
				Amount to be:	\$
				refunded	
				charged	\$

☒ A check in the amount of **\$495.00** to cover the above fees is enclosed.  
☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \_\_\_\_\_ to cover the above fees.  
 A duplicate copy of this sheet is enclosed.  
☒ The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. **501860** A duplicate copy of this sheet is enclosed.

**NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.**

SEND ALL CORRESPONDENCE TO:

**The Law Offices of**  
**Timothy J. Klima**  
**One Massachusetts Avenue NW**  
**Suite 330**  
**Washington DC 20001**  
**202-276-0636 voice**  
**202-537-0847 fax**

SIGNATURE \_\_\_\_\_

**Timothy J. Klima**

NAME \_\_\_\_\_

**34,852**

REGISTRATION NUMBER \_\_\_\_\_

**April 30, 2001**

DATE \_\_\_\_\_

#3/a

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION OF

Joachim KOZLOWSKI

Group Art Unit:

Appln. No.:

Examiner:

Filed: April 30, 2001

Title: Machine Knife For Trimming Books Or The Like

April 30, 2001

**PRELIMINARY AMENDMENT**

Hon. Commissioner of Patents  
Washington DC 20231

Sir:

Please preliminarily amend the subject application as follows prior to fee calculation and examination:

In the Claims:

**Please enter the following amended claims:**

5. (Amended) The machine knife in accordance with claim 1, characterized in that the blade (7) has been embedded in a lock seam (8) on the free end of the blade holder (4).

7. (Amended) The machine knife in accordance with claim 1, characterized in that the blade (10) has been embedded in a groove (9), which extends slightly inclined in respect to the surface of the blade holder (4').

8. (Amended) The machine knife in accordance with claim 1, characterized in that at the knife tip the blade holder (4", 4'") is recessed in respect to the knife support (1", 1'") and is shaped in such a way that the blade (11, 12) covers the blade holder (4", 4'") over its full height and forms a contact face (13) used for support in relation to the cutout (3).

11. (Amended) The machine knife in accordance with claim 1, characterized in that the blade (7, 10, 11, 12) has been selected from ceramic material.

12. (Amended) The machine knife in accordance with claim 1, characterized in that the blade (7, 10, 11, 12) has a coating of a material, in particular diamonds, which is harder in comparison with the cutting material of the blade (7, 10, 11, 12).

13. (Amended) The machine knife in accordance with claim 1, characterized in that the blade (7, 10, 11, 12) is connected with the blade holder (4, 4', 4", 4''') with the aid of a curable adhesive.

14. (Amended) The machine knife in accordance with claim 1, characterized in that the blade (7, 10, 11, 12) is connected with the blade holder (4, 4', 4", 4''') with the aid of a soldering material.

15. (Amended) The machine knife in accordance with claim 1, characterized in that the blade (7, 10, 11, 12) is connected with the blade holder (4, 4', 4", 4''') by means of welding, and in particular ultrasound welding.

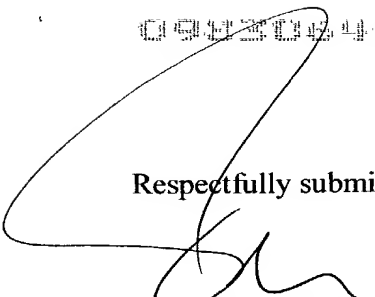
16. (Amended) The machine knife in accordance with claim 1, characterized in that for the releasable connection between the knife support (1, 1', 1", 1''') and the blade holder (4, 4', 4", 4''') respectively a threaded bore (5) in the knife support (1, 1', 1", 1'''), a pass-through bore (6), which is aligned with it and whose entry is widened, as well as screw means, which can be embedded in a flat and flush manner in the blade holder (4, 4', 4", 4'''), are multiply provided.

### **REMARKS**

The preliminary amendments made herein are to remove multiple dependencies from the claims.

An early action on the merits is respectfully requested.

Respectfully submitted,

  
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## **APPENDIX**

### **(Claims With Markings To Show Changes Made)**

5. The machine knife in accordance with claim 1 [one of claims 1 to 4], characterized in that the blade (7) has been embedded in a lock seam (8) on the free end of the blade holder (4).

7. The machine knife in accordance with claim 1 [one of claims 1 to 4], characterized in that the blade (10) has been embedded in a groove (9), which extends slightly inclined in respect to the surface of the blade holder (4').

8. The machine knife in accordance with claim 1 [one of claims 1 to 4], characterized in that at the knife tip the blade holder (4", 4'") is recessed in respect to the knife support (1", 1'") and is shaped in such a way that the blade (11, 12) covers the blade holder (4", 4'") over its full height and forms a contact face (13) used for support in relation to the cutout (3).

11. The machine knife in accordance with claim 1 [one of claims 1 to 10], characterized in that the blade (7, 10, 11, 12) has been selected from ceramic material.

12. The machine knife in accordance with claim 1 [one of claims 1 to 11], characterized in that the blade (7, 10, 11, 12) has a coating of a material, in particular diamonds, which is harder in comparison with the cutting material of the blade (7, 10, 11, 12).

13. The machine knife in accordance with claim 1 [one of claims 1 to 12], characterized in that the blade (7, 10, 11, 12) is connected with the blade holder (4, 4', 4", 4'") with the aid of a curable adhesive.

14. The machine knife in accordance with claim 1 [one of claims 1 to 12], characterized in that the blade (7, 10, 11, 12) is connected with the blade holder (4, 4', 4", 4'") with the aid of a soldering material.

15. The machine knife in accordance with claim 1 [one of claims 1 to 12], characterized in that the blade (7, 10, 11, 12) is connected with the blade holder (4, 4', 4", 4'") by means of welding, and in particular ultrasound welding.

16. The machine knife in accordance with claim 1 [one of claims 1 to 15], characterized in that for the releasable connection between the knife support (1, 1', 1", 1''') and the blade holder (4, 4', 4", 4''') respectively a threaded bore (5) in the knife support (1, 1', 1", 1'''), a pass-through bore (6), which is aligned with it and whose entry is widened, as well as screw means, which can be embedded in a flat and flush manner in the blade holder (4, 4', 4", 4'''), are multiply provided.

PCT  
#4/B



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: PATENT APPLICATION OF

Joachim KOZLOWSKI

Group Art Unit:

Appln. No.: 09/830649 ✓

Examiner:

Filed: April 30, 2001

Title: Machine Knife For Trimming Books Or The Like

August 8, 2001

**SUPPLEMENTAL PRELIMINARY AMENDMENT**

Hon. Commissioner of Patents  
Washington DC 20231

Sir:

Please preliminarily amend the subject application as follows prior to examination:

In the Specification:

**Page 2, please delete the second full paragraph and replace it with the following amended paragraph:**

Basically the blade is made of highly wear-resistant materials, such as special metallic materials. The invention also permits and encourages the employment of other materials, in particular ceramics. In the simplest case the material can be used without a coating, but it can also have a coating, such as a diamond coating. Such materials and material combinations permit great operational dependability and a long service life, wherein the efficiency of the machines can be optimally employed.





## REMARKS

The preliminary amendment made herein is to correct a clerical error in the original specification that unintentionally omitted a line of text from the subject paragraph. For purposes of clarity, this text has been inserted by this amendment. This amendment is fully supported by other areas of the specification and therefore, does not enter new matter. See, for instance, page 3, lines 30-33 of the specification:

The blade holder 4 is made of metal. Its free end, i.e. its free longitudinal side, is occupied by a blade 7 made of a particularly wear-resistant material. This is a hard alloy with a diamond coating, i.e. with a covering of diamond chips.  
(emphasis added)

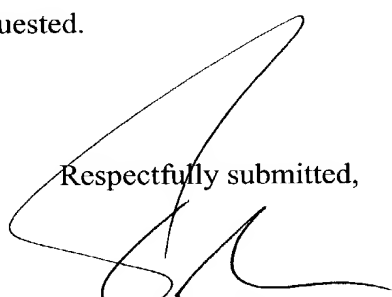
See also, claim 12, which states that "the blade (7, 10, 11, 12) has a coating of material, in particular diamonds, which is harder in comparison with the cutting material of the blade".

Finally, see the abstract, which states that the blade "is made of a cutting material and is to be connected with the knife support, in such a way that its manufacture is cost-effective and it is simple to manipulate and assures a high process dependability." (emphasis added)

In view of the above, the present amendment does not enter new matter and it is respectfully requested that this amendment be entered.

An early action on the merits is respectfully requested.

Respectfully submitted,

  
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(Replacement Specification Paragraph With Markings To Show Changes Made)

Basically the blade is made of highly wear-resistant materials, such as special metallic materials. The invention also permits and encourages the employment of other materials, in particular ceramics. In the simplest case the material can be used without a coating, but it can also have a coating, such as a diamond coating. Such materials and material combinations permit great operational dependability and a long service life, wherein the efficiency of the machines can be optimally employed.

09/830649

JC18 Rec'd PCT/PTO 3 0 APR 2001

## APPLICATION UNDER UNITED STATES PATENT LAWS

Atty. Dkt. No.: TK102

Invention: Machine Knife For Trimming Books Or The Like

Inventor(s): KOZLOWSKI, Joachim

The Law Offices of  
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This is a:

- ☐ Provisional Application
- ☐ Regular Utility Application
- ☐ Continuing Application  
☐ The contents of the parent are  
incorporated by reference
- ☒ PCT National Phase Application
- ☐ Design Application
- ☐ Reissue Application
- ☐ Plant Application

## SPECIFICATION

## Machine Knife for Trimming Books or the Like

5 The invention relates to a machine knife for trimming books or the like in accordance with the preamble of claim 1.

Machine knives of this type have been known for some time.

10 It is known in particular to solder blades or cutters made of hardened steel or a hard alloy to a metallic knife support and to connect both parts fixedly, i.e. non-releasably, with each other in this way. Such knives are primarily used in so-called three-knife automatic cutters and flat-cutting machines in the printing trade.

15 Such knives can be used several times, because they can be reground repeatedly. In the process they become shortened and must be freshly balanced each time. Special demands in regard to quality, accuracy, etc. must be made on the regrinding and balancing, so that thereafter the process parameters, which are important for achieving the desired quality and efficiency, remain assured.

20 As a rule, the work required on the knives is not performed by the manufacturer, but in local service shops, which proceed in accordance with their own processing methods. Therefore losses of quality inevitably occur because of this. Process interruptions can arise in the worst cases. Moreover, regrinding remains 25 limited to defined metallic materials of defined metallurgical or chemical composition. This is where the invention comes into play.

It is the object of the invention to propose a novel machine knife, whose production is cost-effective, which is simple to use and assures high process dependability.

30 This object is attained by means of the characteristics of claim 1. Useful further developments are recited in the subsequent dependent claims.

35 As will be noted, the machine knife in accordance with the invention is essentially comprised of two elements, namely a knife support and a blade holder with the blade or cutter, which can be attached to it and released from it again. The blade or cutter is

permanently connected with the blade holder.

Now the knife support is no longer subjected to wear and is a permanent component of the respective machine. If required, a special cutout or the like is used for the interlocking reception of the fresh wear element, namely the said blade holder and the blade connected therewith.

Basically the blade is made of highly wear-resistant materials, such as special metallic materials. The invention also permits and encourages the employment of other materials, in particular ceramics. In the simplest case the material can be used without a coating, permit great operational dependability and a long service life, wherein the efficiency of the machines can be optimally employed.

Thus, wear is now reduced to that of the blade holder and the blade. In this respect this is a wear element which can be produced comparatively cheaply and where regrinding is no longer worthwhile. It can be replaced simply and with exact fit. With this, the disadvantages mentioned at the outset are no longer present, in particular uncertainties in processing.

Further details and advantages will be described in what follows in connection with the drawings. Shown therein are in:

Fig. 1, a machine knife in accordance with the invention in a view from above,

Fig. 2, the subject of Fig. 1 in a lateral view, partially in section,

Fig. 3, the detail A in Fig. 2 in an enlarged representation with a special blade arrangement,

Fig. 4, a further machine knife in accordance with the invention in a view from above,

Fig. 5, the subject of Fig. 4 in a lateral view, partially in section,

Fig. 6, the detail B in Fig. 5 in an enlarged representation with another blade arrangement,

Fig. 7, represents the blade in an enlarged view prior to its connection with the blade holder,

Fig. 8, a machine knife in accordance with the invention in an enlarged representation similar to the representation in Figs. 3 and 6, and

5 Fig. 9, still another machine knife in accordance with the invention in the above mentioned representation.

In accordance with Figs. 1 to 3, a strip-shaped or, in a view from above, rectangular knife support 1 made of metal is provided with several bores 2 in order to be able to fix it in place, i.e. attach it to a machine, not shown in detail here. On  
10 its longitudinal side which, in the mounted state, is free, the knife support 1 has a seam-shaped cutout 3, in which a strip-shaped blade holder 4 of trapezoidal cross section can be embedded in a flat and flush manner and can be secured on the knife support 1 by means of screws, which are not represented here for reasons  
15 of improved clarity. But a threaded bore 5 in the knife support 1 and a pass-through bore 6 in the blade holder 4, which is cylindrically widened at the inlet so that a screw can be embedded in a flat and flush manner in the blade holder 4, are visible.

As can be furthermore seen from the drawings, the boundary  
20 faces of the cutout 3 at the end located at the inside, as well as the boundary faces of the blade holder 4 cooperating with them, extend at an acute angle, i.e. an angle of less than 90°, in respect to each other. A strong interlocked connection is made possible by means of this in the interest of an even and assured  
25 transfer of force, as well as a long tool life (service life). A forced seating, so to speak, is provided, into which the blade holder 4 is pressed by force and in which it is then particularly dependably held.

The blade holder 4 is made of metal. Its free end, i.e.  
30 its free longitudinal side, is occupied by a blade 7 made of a particularly wear-resistant material. This is a hard alloy with a diamond coating, i.e. with a covering of diamond chips. The blade 7 itself has been embedded in a lock seam 8 on the blade holder 4 and-glued to it-so it cannot-be removed. What was said about the  
35 blade holder 4 in respect to the knife support 1 with its seam-

shaped cutout 3 similarly applies to the blade 7 in respect to the blade holder 4 with its lock seam 8. With the blade, too, boundary faces extending at an acute angle in respect to each other provide a good support and secure holding in the lock seam 8 with its corresponding boundary faces wherein, as already stated, the blade holder 4 and the blade 7 are connected so they cannot be separated and constitute a quasi one-piece wear element. This can be produced cost-effectively, can be comfortably manipulated, and in particular can be simply and accurately positioned, and moreover is dependable to use.

The same considerations basically also apply to another embodiment in accordance with Figs. 4 to 7. Here, the knife support 1' has a slightly different shape in a view from above, but otherwise is again designed to be strip-shaped. However, a noticeable difference lies in that the blade holder 4' has a groove 9 on its free end, which extends slightly inclined in respect to the surface of the blade holder 4'. A blade 10 has been embedded in this groove 9. Because of the special support and protection which the groove 9 provides for the blade 10 it is possible here to use a material for the blade 10 which otherwise would not be used because of its sensitivity to shocks. Thus, a blade 10 made of a ceramic material has been chosen, which provides a great cutting quality. With this embodiment the fact that the blade 10 and the blade holder 4' are connected so they cannot be separated and therefore constitute a one-piece wear element also applies.

In connection with a further embodiment of a machine knife in accordance with Fig. 8 it is provided that the blade holder 4" is recessed at the blade tip in relation to the knife support 1" and is shaped in such a way that the blade 11 covers the blade holder 4" over its entire height and forms a contact face 13, which is used for support in respect to the cutout 3. In this case the blade 11 is held even more securely than before, so that it can also withstand greater stress. This is important when forces act on the blade tip not only in the direction of the solid

arrow line P, but also in the direction of the dashed arrow line.

In that case such forces can be partially diverted to the knife support 1" via the mentioned contact face 13 and can be neutralized, so to speak.

5 This effect can yet be increased in that an extension section 14 is provided on the blade 12 in accordance with Fig. 9.

This can be stepped in respect to the blade holder 4", but can also have another shape.



# List of Reference Numerals

1	Knife support
1'	Knife support
1"	Knife support
1'''	Knife support
2	Bore
3	Cutout
4	Blade holder
4'	Blade holder
4"	Blade holder
4'''	Blade holder
5	Threaded bore
6	Pass-through bore
7	Blade
8	Lock seam
9	Groove
10	Blade
11	Blade
12	Blade
13	Contact face
14	Extension section
P	Arrow (line)

# Claims

1. A machine knife for trimming books or the like, having a knife support made of metal, which can be connected with a machine, and a blade made of a cutting material, which is to be connected with the knife support, characterized in that the blade  
 5 (7, 10, 11, 12), as a part which can be replaced in the knife support (1, 1', 1", 1'''), is designed in such a way that it can be combined with a blade holder (4, 4', 4", 4''') to form an inseparable component, wherein the blade holder (4, 4', 4", 4''') is releasably attached to the knife support (1, 1', 1", 1''') and  
 10 is of such a size and shape that it can be comfortably manipulated and securely positioned.

2. The machine knife in accordance with claim 1, characterized in that the blade holder (4, 4', 4", 4''') is made of metal, is essentially designed strip-shaped and has a slightly trapezoidal cross section.

3. The machine knife in accordance with claim 2, characterized in that the knife support (1, 1', 1", 1''') has a seam-shaped cutout (3) for receiving the blade holder (4, 4', 4", 4''') in a flat and flush manner.

4. The machine knife in accordance with claim 3, characterized in that boundary faces of the seam-shaped cutout (3) at the inner end, the same as the boundary faces of the blade holder (4, 4', 4", 4''') acting together with them, each extend at  
 5 an angle of  $< 90^\circ$  in respect to each other.

5. The machine knife in accordance with one of claims 1 to 4, characterized in that the blade (7) has been embedded in a lock seam (8) on the free end of the blade holder (4).

6. The machine knife in accordance with claim 5,  
characterized in that boundary faces at the inner end of the lock  
seam (8), the same as the boundary faces of the blade (7) acting  
together with them, each extend at an angle of  $< 90^\circ$  in respect to  
5 each other.

7. The machine knife in accordance with one of claims 1 to  
4, characterized in that the blade (10) has been embedded in a  
groove (9), which extends slightly inclined in respect to the  
surface of the blade holder (4').

8. The machine knife in accordance with one of claims 1 to  
4, characterized in that at the knife tip the blade holder (4",  
4''') is recessed in respect to the knife support (1", 1''') and  
is shaped in such a way that the blade (11, 12) covers the blade  
5 holder (4", 4''') over its full height and forms a contact face  
(13) used for support in relation to the cutout (3).

9. The machine knife in accordance with claim 8,  
characterized in that for a stronger connection with the blade  
holder (4''') on the one hand, and for an improved support in  
relation to the cutout (3) on the other hand, the blade (12) has  
5 an extension section (14).

10. The machine knife in accordance with claim 9,  
characterized in that the extension section (14) is stepped in  
relation to the blade holder (4''').

11. The machine knife in accordance with one of claims 1  
to 10, characterized in that the blade (7, 10, 11, 12) has been  
selected from ceramic material.

12. The machine knife in accordance with one of claims 1  
to 11, characterized in that the blade (7, 10, 11, 12) has a  
coating of a material, in particular diamonds, which is harder in

comparison with the cutting material of the blade (7, 10, 11, 12).

13. The machine knife in accordance with one of claims 1 to 12, characterized in that the blade (7, 10, 11, 12) is connected with the blade holder (4, 4', 4'', 4''') with the aid of a curable adhesive.

14. The machine knife in accordance with one of claims 1 to 12, characterized in that the blade (7, 10, 11, 12) is connected with the blade holder (4, 4', 4'', 4''') with the aid of a soldering material.

15. The machine knife in accordance with one of claims 1 to 12, characterized in that the blade (7, 10, 11, 12) is connected with the blade holder (4, 4', 4'', 4''') by means of welding, and in particular ultrasound welding.

16. The machine knife in accordance with one of claims 1 to 15, characterized in that for the releasable connection between the knife support (1, 1', 1'', 1''') and the blade holder (4, 4', 4'', 4''') respectively a threaded bore (5) in the knife support (1, 1', 1'', 1'''), a pass-through bore (6), which is aligned with it and whose entry is widened, as well as screw means, which can be embedded in a flat and flush manner in the blade holder (4, 4', 4'', 4'''), are multiply provided.

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## Abstract

(Fig. 3)

5           It is intended to further develop a machine knife for  
trimming books or the like, which has a knife support made of  
metal and can be connected with a machine, and a blade, which is  
made of a cutting material and is to be connected with the knife  
support, in such a way that its manufacture is cost-effective and  
10 it is simple to manipulate and assures a high process  
dependability. In accordance with the invention this is achieved  
in that, as a part which is replaceable in respect to the knife  
support 1, 1', 1", 1'''', the blade 7, 10, 11, 12 is embodied in  
such a way that it is inseparably connected as one component with  
15 a blade holder 4, 4', 4", 4'''', wherein the blade holder 4, 4',  
4", 4''' is releasably attached to the knife support 1, 1', 1",  
1''' and is of such a size and shape that it can be comfortably  
manipulated and accurately positioned. In a preferred embodiment  
the blade 7 is embedded in a lock seam 8 at the free end of the  
20 blade holder 4. Embodiments wherein the blade holder 4", 4''' is  
recessed at the blade tip in respect to the knife support 1", 1'''  
and is shaped in such a way that the blade 11, 12 covers the blade  
holder 4", 4''' over its entire height and constitutes a contact  
face 13 used for support in respect to the cutout 3, satisfy  
25 higher stress demands. The blade 7, 10, 11, 12 can also be  
selected from ceramic materials inter alia.

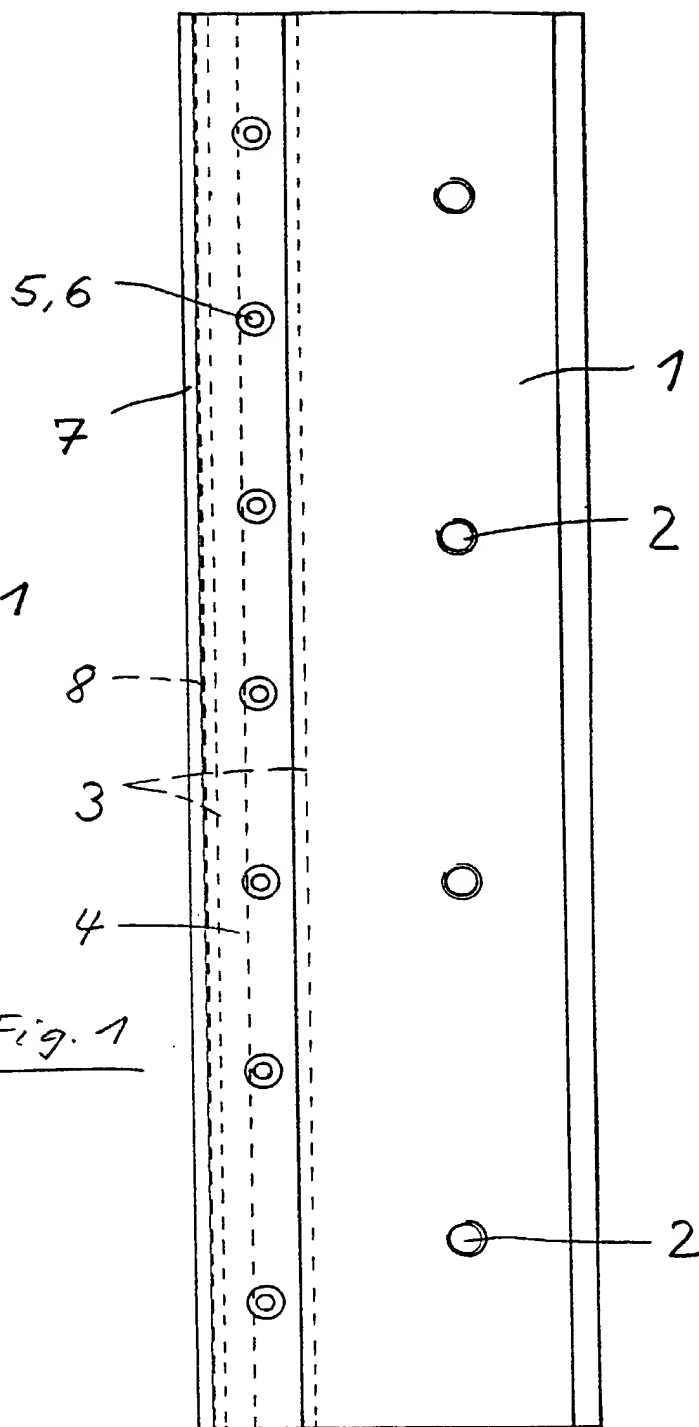
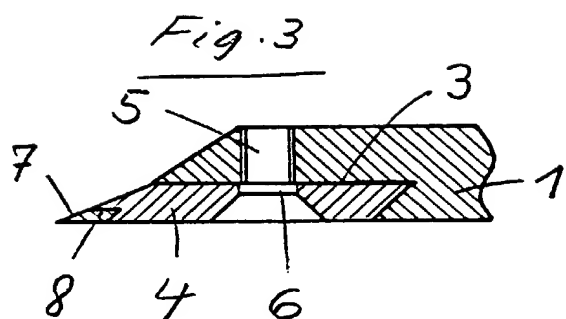
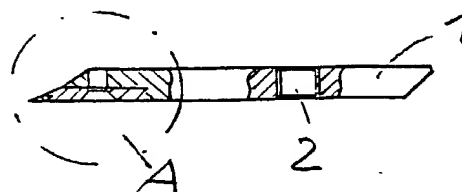


Fig. 1

Fig. 2



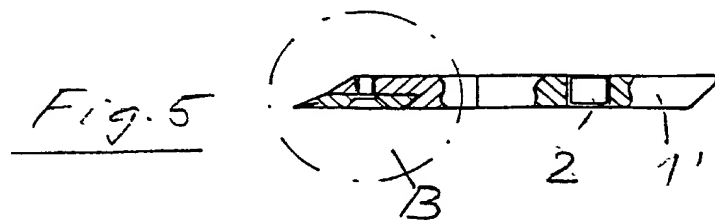
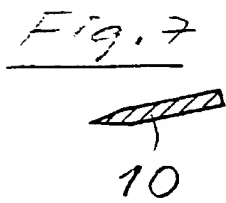
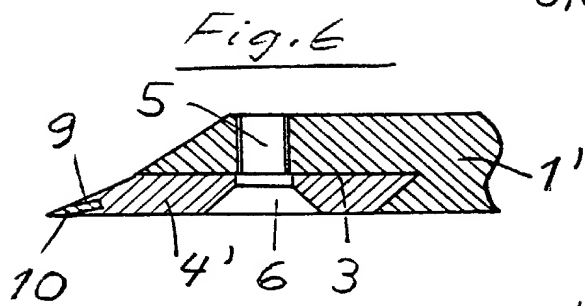
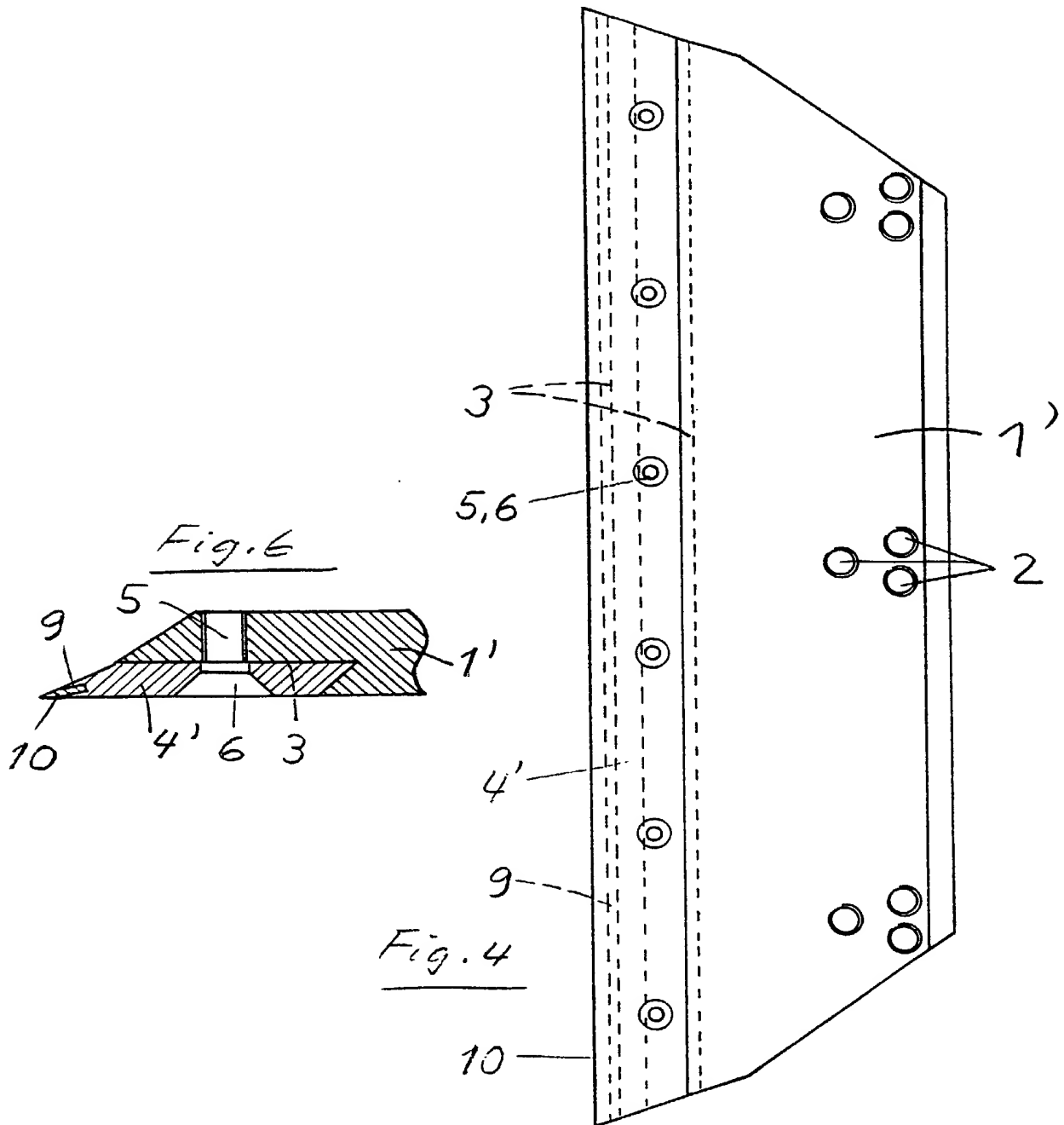


Fig. 9

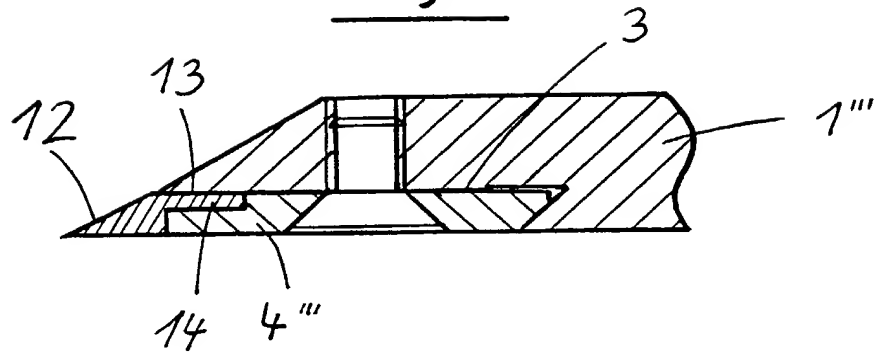
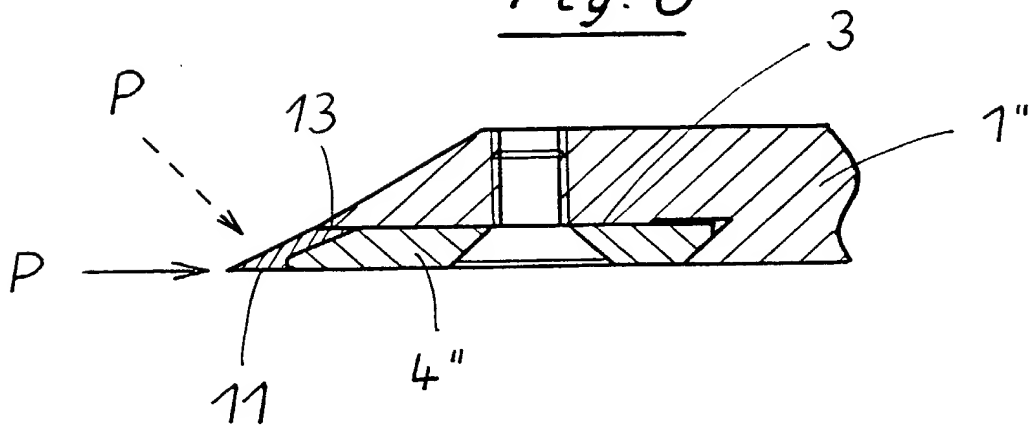


Fig. 8





## DECLARATION AND POWER OF ATTORNEY

UNDER RULE 63 (37 C.F.R.)

## FOR PATENT APPLICATION IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(Form For Utility/Design/CIP/PCT National/Plant/Original/Substitute/ Supplemental Declarations)

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the INVENTION ENTITLED: Machine Knife For Trimming Books Or The Like

the specification of which (CHECK applicable BOX(ES))  
X ☐ is attached hereto  
BOX(ES) B. X was filed on April 30, 2001 as U.S. Application No. 09/830649  
C. X was filed as PCT International Application No. PCT DE00/02965 on August 29, 2000  
and (if applicable to U.S. or PCT application) was amended on April 30, 2001

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56. Except as noted below, I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or 365 (b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT International Application which designated at least one other country than the United States, listed below and have also identified below any foreign application for patent or inventor's certificate, or PCT International Application, filed by me or my assignee disclosing the subject matter claimed in this application and having a filing date (1) before that of the application on which priority is claimed, or (2) if no priority claimed, before the filing date of this application.

PRIOR FOREIGN APPLICATION(S)		Date First Published or Laid-Open	Date Patented or Granted	Priority NOT claimed
Number	Country	Day/MONTH/Year Filed		
✓ 199 41 222.7	Germany	30 August 1999		
✓ 100 03 037.8	Germany	25 January 2000		

If more prior foreign applications, X at bottom and continue on attached page.

Except as noted below, I hereby claim domestic priority benefit under 35 U.S.C. 119(e) or 120 and/or 365(c) of the indicated United States application(s) listed below and PCT International Application(s) listed above or below and, if this is a continuation-in-part (CIP) application, insofar as the subject matter disclosed and claimed in the application is in addition to that disclosed in such prior application(s), I acknowledge the duty to disclose all information known to be material to patentability as defined in 37 C.F.R. 1.56 which became available between the filing date of each such prior application and the national or PCT International filing date of this application.

PRIOR U.S. PROVISIONAL, NONPROVISIONAL AND/OR PCT APPLICATION(S)		Status	Priority NOT claimed
Application No. (series code/serial no.)	Day/MONTH/Year Filed	pending, abandoned, patented	

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

And I hereby appoint The Law Offices of Timothy J. Klima, One Massachusetts Avenue NW, Suite 330, Washington, DC 20001 (to whom all communications are to be directed), and the below named person(s) (of the same address) individually and collectively my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith and with the resulting patent, and I hereby authorize them to delete names/numbers below of persons no longer with the firm and to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/organization who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct the above firm and/or below attorney in writing to the contrary.

Timothy J. Klima 34852

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DATE: X July 5, 2001

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Country of Citizenship: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
(including postal code)

"X" box ☐ FOR ADDITIONAL INVENTORS, and proceed on the attached page to list each additional inventor.

"X" box ☐ FOR ADDITIONAL FOREIGN PRIORITIES on the attached page (incorporated herein by reference).

Attorney Docket No. \_\_\_\_\_